clothes, and cheerful, sanitary surroundings, combined with relief from economic worry.

The children who are able attend school, as it keeps them amused, and should a cure be found they will be better able to return to their former homes. The boys play baseball and appear to enjoy it very much, although the sight of their poor fingerless hands trying to use a ball is enough to make the most hardened observer weep.

The dramatic circle engages the attention of old and young, as all can participate, either as actors or audience. The first time the writer visited the colony the lepers played a tragedy written by a member of the colony. It was very well presented and most interesting, with the exception of the music, which consisted of popular American songs very badly sung. The Filipinos are very musical but have poor singing voices. They have a band of forty pieces and play very well.

Another favorite amusement is to build a bamboo raft and paddle out to sea to fish. Sometimes the lepers escape in this manner, but they are nearly always returned, sometimes voluntarily giving themselves up, as they realize the difficulty of gaining a living by begging, or perhaps they have found new friends at the colony without whom they find themselves lonely and return to be near them.

The lepers are allowed to marry, as children of lepers are very few and seldom live long, and it was found that when they were forbidden to marry they dispensed with the ceremony.

It seems to the writer that the colony is one of the most creditable accomplishments of the American régime in the Philippines, and too much credit cannot be given to Drs. Heiser, Pond, Snodgrass, Martin, Clement, Goff, and many others, who have all given so much of their time and have exposed themselves so constantly to this dangerous disease in the hope of eradicating it permanently from the Philippines.

MISCARRIAGE

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MISCARRIAGE is the indefinite inclusive name commonly applied to the expulsion of the immature fœtus. Etymologically considered, miscarriage is not nearly so succinct or appropriate a word as is abortion, for the former may be and is properly applied to incidental or accidental happenings other than those having to do with an ovum, embryo, or fœtus, as the case may require.

Careful medical teachers and writers divide the period in which miscarriage may happen into three parts, giving the occurrence under each division its particular name. If the expulsion of the fœtus occurs before the fourth month, it is abortion; if between the fourth and sixth months, a miscarriage; and if at any time between the sixth month and the completion of full term, a premature labor. Personally, I prefer the following arrangement: Abortion means the expulsion of the embryo at any time between conception and the objective manifestation of life. Miscarriage covers the period extending from the manifestation of life to the point where the fœtus can maintain a separate existence to that of the mother. Premature labor applies to the event happening during the remaining time short of the completion of full term. Both the terms abortion and miscarriage are often loosely applied even by physicians; but it is always advisable to be as exact in our speech as possible, and to have an exact knowledge of conditions, even though it may not always be the best policy to so express ourselves.

Abortion and miscarriage may be grouped under three heads, viz., accidental, criminal, and therapeutic. I will speak at length of the first group, briefly refer to the second, and outline the essential characteristics of the third. There is a difference of opinion regarding the relative frequency of the cases in the first two classifications. Some writers claim that the criminal abortions, by which is meant those brought about by various methods used by the woman herself or others, for the purpose of avoiding offspring for any ordinary reason, greatly outnumber those of the other two groups. Be that as it may, the nurse seldom has any occasion to quibble over this point; her duty, as well as that of the physician, is to lend aid or assistance to the unfortunate woman, meeting conditions as they may present themselves in the individual case at hand.

Many women who are more or less regular in their menstruation abort without knowing that they are doing so. I had a patient, a woman very anxious for a child, who supposed she had never been pregnant. She had always been irregular in menstruating, frequently going from five to seven weeks, sometimes skipping an entire month. On a few of these occasions she would have more or less pain and would pass clotted blood. Twice I examined these clots and each time discovered a minute embryo inclosed in its chorionic villi. Appropriate treatment extending over several months enabled this patient to carry a child to full term. I believe many "clots" passed during menstruation are in reality early abortions. Of course the "catching cold" bugaboo is an important and overworked factor in the lay mind and brought into

play in nearly all derangements of the menstrual phenomena, but the trained physician or nurse knows how insignificant is this ghost. Accidental abortions are likely to take place at the time the regular menstruation would have occurred, and more frequently at the third month than at any other. Even if the contractions of the uterus were as vigorous each month as they were before pregnancy occurred, abortion would seldom happen in the healthy sound uterus, but they certainly play an important part when conditions are not normal. We frequently are brought in contact with women who give a history of repeated abortions or premature labors occurring at about the same time in each pregnancy. In most of these instances the causes can be determined by careful investigation. If the abortions have happened early, it is probable that they were due to either an endometritis or a uterine displacement, to which we will later refer.

The causes of accidental, or in some instances what could more truthfully be called unintentional, miscarriage are threefold in their origin and nature; (1) those in which the father is responsible (paternal), (2) those having to do with the mother (maternal), and (3) conditions existing in the fœtus itself (fetal). By far the most frequent paternal cause is syphilis. Statistics from a variety of sources, without question reliable, show that 43 per cent. of all abortions are due to syphilis. This disease is frequently overlooked. It may be that such a long time has elapsed since there was any visible manifestation of the disease that its existence was forgotten. On the other hand many a victim who believes himself cured has the disease in a latent but transmissible form. Alcoholism and various depraved blood and cell states have a similar effect.

Maternal causes of abortion may be divided into two classes, external and internal, or, as the psychologist would put it, exoteric and esoteric. Fright and powerful emotion have had a large share of the blame when considering the causes of abortion, but I never knew of an abortion resulting from purely emotional cause. Who ever heard of even the profoundest sorrow or uncontrollable grief in an unmarried girl, where all stages of emotion are most likely to be present, causing a miscarriage? In fact, I cannot at this time recall a single instance where accidental abortion occurred in an illegitimately pregnant female. Well, if strong emotion will not cause miscarriage, what will?

Traumatism belongs in the category of external causes, yet it is remarkable what an amount of traumatic injury a woman may sustain without dislodging the product of conception. She may fall down a flight of stairs, she may be knocked senseless by an automobile, she may

take an anæsthetic and undergo a major surgical operation, and still go to full term. On the other hand the slight effort of dancing a number, a slip on the icy pavement, the jar of a rough street car ride in some women will be sufficient to cause miscarriage, and it is a peculiar fact that to the latter group of women belong those who are most anxious to have children. However, there are not nearly so many abortions due to traumatic injuries as is generally supposed by the laity. I admit that it is a frequent and convenient excuse, but a close investigation will usually disclose some other cause.

Various drugs are given credit for being a certain "relief" for the pregnant state. They are lauded as sure "regulators," but every intelligent physician knows that there are no drugs that will certainly produce abortion. All physicians with extensive practice have knowledge of cases where women have jeopardized their own lives with large doses of powerful so-called abortives, with the result that they succeeded only in damaging themselves. Time and again they have attended patients who have poisoned themselves with enormous quantities of ergot, cotton root, tansy, pennyroyal, etc., the fœtus going safely on to maturity. Therefore the external accidental causes are few.

Among the internal causes, backward displacement of the uterus stands at the head. When the uterus, held under the sacrum by adhesions, becomes large enough to fill this hollow, something is bound to happen, and the most likely thing is miscarriage. Chronic metritis or endometritis or even an extensively lacerated cervix may be responsible for abortion.

Fetal conditions causing miscarriage are nearly always pathological, affecting either the ovum or its appendages, including the placenta. Fetal syphilis is frequently responsible for the death of the ovum. The dead ovum becomes a foreign body and as such arouses uterine contractions. The fœtus *in utero* may be syphilitic and the mother escape infection.

Therapeutic abortion is the name applied to the emptying of the uterus for the purpose of conserving the life or health of the mother. It is a rule in obstetrics that when the life of a mother and her unborn child are imperiled, and the life of one only can be saved, the rights of the mother are considered paramount.

At one time or another abortion has been justifiably performed for the following reasons: contracted pelvis, malignant growths (tumors or cancers), pernicious vomiting of pregnancy, advanced disease of the kidneys, placenta prævia with its attendant uncontrollable hemorrhage, and an incarcerated retroflexed uterus. There are other conditions or

emergencies which also might warrant such a procedure, but the matter is not to be considered lightly and no doctor ought to induce an abortion under any circumstances without the advice of some other reliable member of the profession, who is willing to assume the responsibility of his opinion or part in the work. To advise emptying the uterus in all instances where there is, for instance, protracted vomiting of pregnancy would be disastrous to both patient and physician, and the possibilities of an emetic famine are apparent. In certain forms of contracted pelvis, where it is known that it is absolutely impossible for the woman to give birth to a full term child, and the mother is desirous of offspring, the progress of pregnancy should not be interrupted, for delivery may be safely accomplished by Cæsarean section.

The first or prodromal symptoms of abortion may be those of nausea or vomiting, but in the majority of cases pain or hemorrhage, or both, are the first premonitions. The pain is cramp like, felt in the pelvis, and is intermittent in character, similar to the so-called "false" pains of labor. These are caused by the contraction of the uterus. After a short time each pain is accompanied by a gush of blood; clots may collect either in the uterus or vagina, and are expelled when contraction occurs. One point worth bearing in mind when considering a comparision between dysmenorrhœa and early abortion is that normal menstrual blood does not clot. Hemorrhage may be rather profuse or at times very moderate, yet the long-continued loss due to a protracted miscarriage, which may last days or weeks, may cause a serious anæmia. This refers to the neglected cases, for in inevitable abortion the correct practice is to empty the uterus as soon as possible.

We now come to the manner of treatment, which is, in so far as the nurse is concerned, usually a routine procedure. To the physician, however, it is an interesting and ever-varying problem. The multiplicity of conditions under which women live, move, and have their being, taken together with the individual character and temperament, to say nothing of the peculiarities of each particular case, render the situation to a certain extent unique in each instance. Therefore, before beginning the treatment, we must learn the important clinical and historical facts.

When abortion occurs before the twelfth week, owing to the imperfect development of the placenta, the ovum with its entire quota of attachments often comes away intact. So soon as this is accomplished the pain and hemorrhage may cease and convalescence be established. After the formation of the placenta as a definite organ, particularly after the sixteenth week, it is rare that we have such good luck, the fœtus, as a rule, being extruded first, and followed, after a longer or shorter period, by the placenta. This is known as incomplete abortion. Under

these circumstances the woman is in grave danger from hemorrhage, which usually persists till the uterus is empty or, if much time elapses, from septicæmia. After the twenty-eighth week the course of labor differs little from that of full term, and can be treated as such.

The place for a woman who is about to abort, who is in the process of miscarriage, or who has just passed through the ordeal, is in bed. I cannot now think of a condition under which an exception should be made; yet many times women do not thus care for themselves. Only recently a woman came to my office suffering from incomplete abortion, being smeared with blood. The fœtus had been expelled the day before; the os had closed, the pains practically ceased, but the hemorrhage continued. She walked three blocks to the street car, on the floor of which she left a puddle of blood. I wanted to send her back home and go to the house to do what was necessary, but she did not want her "gossipy neighbors" to see a doctor or nurse come to her house when she was "not sick," and insisted that I dilate the cervix and remove the placenta at the office. Knowing that the operation would not cause her to lose any more blood than she was now losing, and that the hemorrhage would cease as soon as the uterus was empty, I, without an anæsthetic, did as she requested. She returned to her home within one hour and made an uninterrupted recovery; but the risk was entirely too great.

When a nurse is in charge she should, as I said before, put the patient to bed. If the bowels are loaded and if time is not urgent, give a cathartic, or in emergency an enema, or both. Of course miscarriage is an event that should be attended by a physician, but in case he is not present a nurse should know how to act, so I will here give a few rules. It is hardly necessary at this day to remind a trained nurse of the necessity of antiseptic precautions, so I will assume that she will never forget nor omit this.

When the hemorrhage or pain is severe and little or no dilatation present, it is good practice to pack the vagina. This must be done through a speculum and will require several lengths of 2-, 3-, or 4-inch packing strips as may be available. Unless this is done tightly, every fold of the vagina being filled, the operation is useless, for the blood will simply ooze out past the tampon. Finally an external pad and a T-binder are to be applied. Ergot given at this time will tend to increase the uterine contractions and is usually indicated. If the pains continue, when the packing is removed from six to twelve hours, according to the state of dilatation at the beginning, the complete ovum may be found in the gauze or lying in the vagina. If any part of it is discovered protruding from the os, the nurse may, by pressure of one hand on the patient's abdomen, bring the uterus within reach, so that the mass can

be extracted with the other hand in the vagina. It sometimes happens the ovum has not been expelled, neither does it present at the os. The cervix will usually be found dilated to the extent that a finger or fingers can be introduced into the uterus, where the mass can be peeled from its attachment and removed. At this time a douche is not indicated and should not be given subsequently unless the odor of the lochia becomes offensive.

When an incomplete abortion occurs, the remnants may be retained in spite of the packing and all efforts of expulsion on the part of the patient. If ergot be administered under these circumstances, we may be instrumental in defeating our own purpose, for the drug will sometimes cause the cervix to contract, compelling a resort to instrumental dilatation, to be followed by a thorough curettement; but this is the doctor's work.

The patient should be kept in bed for several days just as for normal confinement. This is a matter of importance, for the physical strain may be and the actual loss of blood often is greater than that occurring during a full term parturition.

It frequently happens that miscarriage will so stimulate the function of the mammary glands that the breasts will fill with milk. If so, a tightly fitting binder should be applied. If the nurse be competent she may massage the breasts several times daily, but if this is not properly done it results in more harm than good. Applications of belladonna or a solution of atropine are useful in lessening the secretion of milk, as is also the administration of saline cathartics. If the breasts become painful, Lloyd's specific phytolacca is a splendid remedy.

The diet should be restricted and limited in amount, but no reasonable articles of food which the patient desires need be prohibited.

In uncomplicated cases there should be no elevation of temperature. Fever should arouse a suspicion of infection. In infected cases the question of uterine douche arises. Generally speaking, I am not in favor of the routine intra-uterine injection of antiseptic fluids. When the uterus needs irrigation I prefer a saline solution. I believe this to be a grave question and I would advise the nurse never to undertake an intra-uterine injection of any sort on her own impulse. If the physician advises it, and she follows his instructions, his is the responsibility. In this age of the world that which is done by both physician and nurse is done for a purpose. Blind procedures have no part in our practice.

Contigent emergencies must be met by the nurse as her judgement and common-sense, added to her training, seem to indicate.